

What is claimed is:

1. A composition having a co-continuous interconnecting channel morphology comprising at least three components,
 - (a) wherein component A is selected from the group of polymers that are semicrystalline polymers and amorphous polymers, wherein the amorphous polymers have a shear modulus greater than about 8 MPa;
 - (b) wherein component B is a polymer;
 - (c) wherein components A and B are immiscible within each other and, if components A and B react after mixing, components A and B are immiscible prior to reaction;
 - (d) wherein component C is a particle;
 - (e) wherein the volume fraction of component A represents at least about 50% by volume of the total volume of components A, B and C;
 - (f) wherein the preferential affinity between component B and component C is greater than between component A and component C;
 - (g) wherein at least two phases are formed, one phase is composed of a majority of component A, and the second phase is composed of a majority of component B and a majority of component C; and
 - (h) wherein the two phases form the co-continuous interconnecting channel morphology.
2. A composition having a co-continuous interconnecting channel morphology comprising at least three components,
 - (a) wherein component A is selected from the group of thermoplastics that are semicrystalline polymers and amorphous, wherein the amorphous polymers have a shear modulus greater than about 8 MPA;
 - (b) wherein component B is a polymer;
 - (c) wherein components A and B are immiscible within each other and, if components A and B react after mixing, components A and B are immiscible prior to reaction;
 - (d) wherein component C is a particle;

(e) wherein the volume fraction of component A represents at least about 50% by volume of the total volume of components A, B and C;

(f) wherein the preferential affinity between component B and component C is greater than between component A and component C;

(g) wherein at least two phases are formed, one phase is composed of a majority of component A, and the second phase is composed of a majority of component B and a majority of component C; and

(h) wherein the two phases form the co-continuous interconnecting channel morphology.

3. A composition having a co-continuous interconnecting channel morphology comprising at least three components,

(a) wherein component A is selected from the group of thermosets that are semicrystalline polymers and amorphous polymers, wherein the amorphous polymers, have a shear modulus greater than about 8 Ma;

(b) wherein component B is a polymer;

(c) wherein components A and B are immiscible within each other and, if components A and B react after mixing, components A and B are immiscible prior to reaction;

(d) wherein component C is a particle;

(e) wherein the volume fraction of component A represents at least about 50% by volume of the total volume of components A, B and C;

(f) wherein the preferential affinity between component B and component C is greater than between component A and component C;

(g) wherein at least two phases are formed, one phase is composed of a majority of component A, and the second phase is composed of a majority of component B and a majority of component C; and

(h) wherein the two phases form the co-continuous interconnecting channel morphology.

4. A composition having a co-continuous interconnecting channel morphology comprising at least three components,

(a) wherein component A is selected from the group of thermoplastics that are semicrystalline polymers and amorphous, wherein the amorphous polymers have a shear modulus greater than about 8 MPA;

(b) wherein component B is a polymer;

(c) wherein components A and B are immiscible within each other and, if components A and B react after mixing, components A and B are immiscible prior to reaction;

(d) wherein component C is a particle;

(e) wherein the volume fraction of component A represents at least about 50% by volume of the total volume of components A, B and C;

(f) wherein the preferential affinity between component B and component C is greater than between component A and component C;

(g) wherein at least two phases are formed, one phase is composed of a majority of component A, and the second phase is composed of a majority of component B and a majority of component C; and

(h) wherein the two phases form the co-continuous interconnecting channel morphology.

5. A composition having a co-continuous interconnecting channel morphology comprising at least three components,

(a) wherein component A is selected from the group of thermosets that are semicrystalline polymers and amorphous polymers, wherein the amorphous polymers, have a shear modulus greater than about 8 Ma;

(b) wherein component B is a polymer;

(c) wherein components A and B are immiscible within each other and, if components A and B react after mixing, components A and B are immiscible prior to reaction;

(d) wherein component C is a particle;

(e) wherein the volume fraction of component A represents at least about 50% by volume of the total volume of components A, B and C;

(f) wherein the preferential affinity between component B and

component C is greater than between component A and component C;

(g) wherein at least two phases are formed, one phase is composed of a majority of component A, and the second phase is composed of a majority of component B and a majority of component C; and

(h) wherein the two phases form the co-continuous interconnecting channel morphology.

6. The composition of claim 1, wherein component A is selected from the group consisting of polyolefins, polycarbonates and polyamides.

7. The composition of claim 1, wherein component B is selected from the group consisting of polyglycols, poly(ethylene vinyl alcohols), and polyvinyl alcohol.

8. The composition of claim 1, wherein the composition is in the form of a shaped article and the shaped article is selected from the group consisting of sheets, films, pellets and beads.

9. The composition of claim 1, wherein component A is selected from the group consisting of polyolefins, polycarbonates and polyamides, and component B is selected from the group consisting of polyglycols.

10. A composition having co-continuous interconnecting channel morphology comprising at least five components,

(a) wherein component A is selected from the group of polymers that are semicrystalline polymers and amorphous polymers, wherein the amorphous polymers have a shear modulus greater than about 8 MPa;

(b) component B and B' are polymers;

(c) components A, B and B' are immiscible within each other;

(d) components C and C' are particles;

(e) the volume fraction of component A represents at least about 34% by volume of the total volume of components A, B, B', C and C';

(f) the preferential affinity between components B and C is greater than either between components A and C and between components B' and C;

(g) the preferential affinity between components B' and C' is greater than either between components A and C' and between components B and C';

(h) at least three phases are formed, one phase is composed of a majority of component A, the second phase is composed of a majority of component B and a majority of component C, and the third phase is composed of a majority of components B' and a majority of components C'; and

(i) at least three phases form the co-continuous interconnecting channel morphology.